

1896), it differs in being rougher, and of chestnut rather than of olive-brown color; but the contour is nearly the same. *P. Cincinnatiensis* Lea is paler in color, with shorter, more nearly circular aperture, and different texture. The true *Bythinella intermedia* of Tryon is a wholly different thing.

Thirty-eight specimens examined. Types from the locality and collector first mentioned above. The denticle formula is $\begin{smallmatrix} 3 \\ 1-1 \end{smallmatrix}$, 5, 6, 6.

Since the above was written, additional specimens from San Francisco have been received from Mr. W. J. Raymond. They agree in all respects with the types.

ON A NEW SPECIES OF DRILLIA FROM CALIFORNIA.

BY WM. H. DALL.

Drillia empyrosia, n. sp.

Shell solid, with a high acute spire and polished surface; color yellowish with a burnt sienna brown tint on the later whorls, a paler peripheral band develops white patches where it crosses the ribs; transverse sculpture of (about 11) slightly oblique somewhat flexuous ribs, obsolete below the periphery and upon the anal fasciole, sharpest on the earlier whorls; Spiral sculpture of coarse, sometimes nearly obsolete threads, most obvious below the periphery; whorls nine, the nucleus lost in the specimen; aperture short, wide, with a deep wide notch leaving a wide fasciole, a callous lump above the notch on the body, and a rather strong whitish callus, externally brown-edged, on the pillar; siphonal notch wide with a marked fasciole, the canal slightly recurved. Lon. of shell 31, of last whorl 16; of aperture 10, max. diam. 10 mm.

Found in deep water off San Pedro, Cala., by Mr. and Mrs. T. S. Oldroyd.

This species resembles *D. unimaculata* Sowerby, but is smaller, with a different coloration, with less nodular and more oblique ribs, and more slender form. Though not the largest, it is perhaps the most elegant Pleurotomoid of alta California.

NEW PUPIDÆ.

BY DR. V. STERKI.

BIFIDARIA QUADRIDENTATA, n. sp. Shell narrowly perforate-rimate, conical-turriculate, with the apex somewhat obtuse; colorless glassy;

surface very slightly striated, shining; whorls six, gradually increasing, with the suture rather deep between the upper, less so between the lower whorls; the last whorl moderately ascending at the aperture, rather rounded at the base, slightly expanded near the aperture, with an impression over the inferior palatal fold; aperture rather oval, truncated above, margins well everted, the palatal somewhat more curved than the columellar, the two connected by a thin callus; lamellæ and folds four, subequal; angulo-parietal appearing almost simple, inclined toward the columella; columellar horizontal, rather short and strong, palatals rather short and stout, in normal position, the inferior somewhat larger and more remote from the margin; size: alt. 2.4 to 2.8, diam. 1.3; apert. alt. 1.0 mm.

Hab.: Capitan Mts., Lincoln Co., New Mexico. Over a hundred good, fresh specimens were collected by Rev. E. H. Ashmun.

In size, shape and color, our species has much resemblance to *Bif. contracta* Say, but the aperture, with its lamellæ and folds, is very different, as is at once apparent from the description. *Bif. quadridentata* rather ranges with *Bif. pilsbryana*, which, however is very much smaller, usually has a basal lamella and whose angulo-parietal shows hardly its being complex.

BIF. HORDEACELLA Pils. var. PARVIDENS, n. Quite small, apex more acute than in typical examples, and outline more obovoid; peristome rather abruptly but narrowly everted; lamellæ and folds small, especially so the upper palatal, often being a mere trace; basal absent or very small; color pale horn; alt. 1.5 to 2 mm. Jerome, Arizona, a good number of specimens, collected by Rev. E. H. Ashmun.

PUPA (PUPILLA) SONORANA. n. sp. Shell perforate-rimate, cylindrical, apex obtuse, rounded; color brownish horn; surface finely striated-rugulose, more coarsely so near the aperture; whorls $6\frac{1}{2}$, gradually increasing; suture rather deep; the last whorl comparatively small, compressed in its inferior part, the base narrow, almost keeled; near the aperture a high, sharp bulging filled with a strong whitish callus, shining through the shell; a narrow, deep constriction in front of it, and an impression over the palatal fold; aperture rather small; margins abruptly but rather narrowly everted; lamellæ and folds 3, white; parietal rather deep seated, long, spiral; columellar perpendicular (along the columella), lamellar; palatal (the inferior) rather strong, often with a thread-like prolongation inward. Size: alt. 2.6, diam. 1.3.

Hab.: White Oaks, Mescale, Gilmores, New Mexico, and of one lot the origin is unknown, (very probably New Mexico or Arizona) collected by Rev. E. H. Ashmun.

Var. TENELLA, n. Shell rather oblong or ovoid; the bulging in the palate less high, and only with a slight callus inside. Most specimens are less high than the types (2.3 to 2.6).

Capitan Mts., New Mexico, Mr. Ashmun, a dozen specimens.

This *Pupilla* is distinct from all our American forms; but it stands very near *P. triplicata*, Studer, of Europe, and may prove to be distinct only as a var. It is smaller than *P. blandi*, the last whorl is more compressed below, and the granular surface, the long parietal, and the perpendicular, elongated, lamelliform columellar lamella, are other distinguishing features.

IN MEMORIAM—EDWARD W. ROPER.

Edward Warren Roper was born in Revere, Mass., October 12, 1858. When he was three years old his mother died, and he was taken into the family of her sister, Mrs. Benj. F. Perry, where he grew up to manhood. When six years of age his uncle and aunt removed to a farm in Lynnfield, Mass. This farm was his home until the age of fifteen.

The creatures of the woods and fields were his favorite companions. He was especially interested at this time in birds and wild flowers. An essay on "The Nesting Habits of Birds," won him a prize while in High School, and led to his early recommendation for membership in the Boston Society of Natural History.

The family having removed to Revere, Edward's education was finished in the Chelsea High School, from which he graduated in June, 1877. The treasures of the sea, shore and marsh had begun to interest him, and he now determined to concentrate his scientific efforts on conchology.

Three years after leaving school Mr. Roper became employed in newspaper work, which he followed for eleven years, editing the "Revere Journal," and afterwards a paper in Somerville, "The Truth," and for several years the "Chelsea Record."

In December, 1893, he suffered a severe attack of gripe. As soon as he was able he went to Jamaica for the remainder of the winter, and returned apparently fully recovered.